Listing of Claims

Claim 1 (previously presented): A method for optimizing the image quality of movable subjects imaged with a microscope system, comprising the following steps:

optically acquiring images by a detector unit, each image having a plurality of pixels;

determining a respective displacement vector field from a comparison of the pixels of each two chronologically successive acquired images;

identifying a trajectory for each pixel of the acquired images from the displacement vector fields; and

applying an operation to the images optically acquired by the detector unit along the identified trajectory,

wherein the acquired images are not subjected to compression or decompression during the applying of the operation.

Claim 2 (previously presented): The method as defined in Claim 1, wherein the operation along the identified trajectory is a deconvolution, a smoothing, an averaging filter, or an operation acting in time-lateral fashion.

Claim 3 (previously presented): The method as defined in Claim 1, wherein the images optically acquired by the detector unit are conveyed to an image memory; and data obtained from the images optically acquired by the detector unit is conveyed to an optical flow calculator to a trajectory tracker, and to a trajectory memory.

Claim 4 (previously presented): The method as defined in Claim 3, wherein for the application of the operation, the images optically acquired by the detector unit are retrieved from the image memory and corresponding trajectory data is retrieved from the trajectory memory in a correlated way.

Claim 5 (previously presented): The method as defined in Claim 4, wherein the data generated by application of the operation is conveyed to a second image memory.

Claim 6 (original): The method as defined in Claim 1, wherein the microscope system contains a scanning microscope or a conventional microscope.

Claim 7 (previously presented): An arrangement for optimizing the image quality of movable subjects imaged with a microscope system, comprising:

at least one objective defining an image window,

a detector unit for optically acquiring images, each image optically acquired by the detector unit having a plurality of pixels, and

a computer system comprising

a means for determining a respective displacement vector field from a comparison of the pixels of at least two chronologically successive images optically acquired by the detector unit,

a means for identifying a trajectory for each pixel of the images optically acquired by the detector unit from the displacement vector fields, and

a means for applying an operation to the images optically acquired by the detector unit along the identified trajectory,

wherein the acquired images are not subjected to compression or decompression during to the applying of the operation.

Claim 8 (previously presented): The arrangement as defined in Claim 7, wherein the means for applying an operation to the images optically acquired by the detector unit along the identified trajectory is chosen from: a deconvolution means, a smoothing means, an averaging filter, or a means for operation acting in time-lateral fashion.

Claim 9 (previously presented): The arrangement as defined in Claim 7, further comprising

a first image memory storing the images optically acquired by the detector unit;

a trajectory memory storing trajectory data obtained from the images optically acquired by the detector unit; and

a second image memory storing the images created by the correlation of the images from the first image memory with the trajectory data from the trajectory memory.

Claim 10 (original): The arrangement as defined in Claim 7, wherein the microscope system encompasses a scanning microscope or a conventional microscope.

Claim 11 (previously presented): Computer-usable software on a computer-readable medium, wherein the software causes a microscope system to carry out a method as defined in one of Claims 1 through 6.